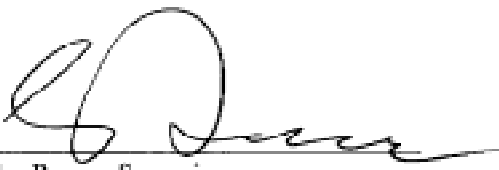


## Operations and Maintenance of the Aracor Model 4100QTS Semiconductor Irradiation Equipment

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### ARACOR OPERATION PROCEDURE APPROVAL SIGNATURES:

  
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## **1.0 PURPOSE**

To provide minimum guidance to the Aracor operator when operating the Aracor model 4100QTS Semiconductor Irradiation equipment.

## **2.0 SCOPE**

This work instruction is applicable to the operation and maintenance of the Aracor model 4100QTS Semiconductor Irradiation equipment.

## **3.0 DEFINITIONS**

3.1 See Reference Manuals for Definitions

## **4.0 QUALITY RECORDS AND FORMS**

4.1 None

## **5.0 SAFETY PRECAUTIONS AND WARNING NOTES**

- 5.1 Thorough radiation surveys must be performed on newly installed or modified equipment.
- 5.2 A survey meter should be kept near the equipment at all times.
- 5.3 Defective lamps in the warning system must be replaced immediately.
- 5.4 THIS EQUIPMENT PRODUCES X-RADIATION. NO ATTEMPT SHOULD BE MADE TO OPERATE THIS EQUIPMENT UNLESS IT IS THOROUGHLY UNDERSTOOD. IF A MALFUNCTION SHOULD OCCUR, TURN OFF THE MAIN POWER KEY SWITCH, CEASE OPERATION AND NOTIFY THE GROUP SUPERVISOR. ONLY A QUALIFIED REPAIR TECHNICIAN SHOULD ATTEMPT CORRECTION OF THE MALFUNCTION.
- 5.5 Do NOT touch the X-Ray Tube window, it is made of Beryllium which is TOXIC.
- 5.6 Never apply high voltage or current to the X-Ray tube until the X-Ray power supply is warmed up.

## **6.0 REFERENCES**

- 6.1 Aracor Model 4100 Operator and Maintenance Manual
- 6.2 Aracor Document FR846-93: Automated Radiation/Reliability Test System

## **7.0 TOOLS, EQUIPMENT, AND MATERIALS**

7.1 See Reference Documentation for any needed tools, equipment, or materials.

## **8.0 PERSONNEL TRAINING AND CERTIFICATION**

8.1 All operators must attend a radiation safety course before operating this equipment. Contact JPL Safety to schedule training.

## **9.0 OPERATING PROCEDURE**

### **9.1 Startup**

- 9.1.1 Obtain operating keys from J. Coss (4-7463) or Group Supervisor.
- 9.1.2 Open both chilled water valves on wall behind unit.
- 9.1.3 Insure that compressed air is supplied to the unit.
- 9.1.3 Power up (X-ray tube cannot be powered up unless there is water flow).

## 9.2 Channel Hot-Carrier Stress Test

9.2.1 See Aracor Document FR846-93: Automated Radiation/Reliability Test System Section 6.1

## 9.3 Radiation Test

9.3.1 See Aracor Document FR846-93: Automated Radiation/Reliability Test System Section 6.2

## 9.4 Error Codes

9.4.1 See Aracor Model 4100 Operator and Maintenance Manual Section 4.3

## 9.5 Front Panel Data Entry

9.5.1 See Aracor Model 4100 Operator and Maintenance Manual Section 4.4

## 9.6 X-Ray Power On

9.6.1 See Aracor Model 4100 Operator and Maintenance Manual Section 4.5

## 9.7 X-Ray Calibration

9.7.1 See Aracor Model 4100 Operator and Maintenance Manual Section 4.6

## 9.8 X-Ray Test

9.8.1 See Aracor Model 4100 Operator and Maintenance Manual Section 4.7

## 9.9 Power Down Procedure

9.9.1 See Aracor Model 4100 Operator and Maintenance Manual Section 4.8

## 9.10 System Reset

9.10.1 See Aracor Model 4100 Operator and Maintenance Manual Section 4.9

## 9.11 Laser Operations

9.11.1 See Aracor Model 4100 Operator and Maintenance Manual Section 5.2

## 9.12 Shutdown

9.12.1 If X-ray has been used recently, allow water to flow for at least ten minutes after tube has been turned off.

9.12.2 Turn off main power on upper panel.

9.12.3 Turn off circuit breakers on center bottom panel.

9.12.4 If unit will not be used in near future, turn off chilled water valves.

# 10. FLOW DIAGRAM

10.1 None